

Numbers and Operations  
Lesson 1: Order of Operations and  
Number Properties  
Math for Standards

Name \_\_\_\_\_

Date \_\_\_\_\_

*EQ: How is the order of operations used with number properties to help solve problems?*

**Order of operations** was established to make sure problems \_\_\_\_\_

\_\_\_\_\_

**Algebraic expressions** have \_\_\_\_\_, but no \_\_\_\_\_

**Commutative property** means we can do the operation in any \_\_\_\_\_,  
but only for \_\_\_\_\_ and \_\_\_\_\_.

**Associative property** allows for us to move the \_\_\_\_\_ around  
without changing the answer, also only working for \_\_\_\_\_ and  
\_\_\_\_\_.

**Distributive property** has us distribute by \_\_\_\_\_ everything inside the  
\_\_\_\_\_ with what is in front.

**Inverse elements** will \_\_\_\_\_ what the original did: When two numbers add  
up to \_\_\_\_\_, or two numbers multiply to \_\_\_\_\_.

The **identity** will be what we add or multiply by to get the \_\_\_\_\_  
back: \_\_\_\_\_ for addition and \_\_\_\_\_ for multiplication.

**How do we remember the order of operations?**

Example 1: Find the value of each expression.

a)  $4 \cdot (3 + 7) - 4$

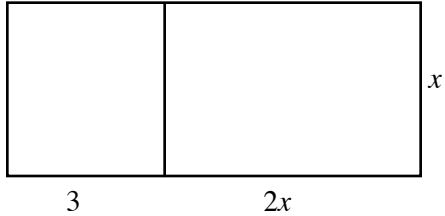
b)  $4 \cdot 3 + 7 - 4$

c)  $\frac{5(6 - 2)}{2}$

d)  $6 - 8(4 + 2) + 2 \cdot 2$

Example 2: Evaluate  $6x^2 - 3b$  when  $x = -2$  and  $b = 4$ .

Example 3: Write two different expressions to find the area below:



Example 4: Find the inverse elements for addition and multiplication for each of the following:

a. 4

b.  $x$

c.  $-3$

d.  $\frac{3}{4}$

Example 5: How do the inverse elements and identities relate to each other?